



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/483,883	01/18/2000	Mitsunobu Ono	P/16-251	8978
7590 Steven I Weisburd Ostrolenk Faber Gerb & Soffen LLP 1180 Avenue of the Americas New YORK, NY 10036-8403	03/14/2007		EXAMINER AN, SHAWN S	
			ART UNIT 2621	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/14/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/483,883	ONO ET AL.	
	Examiner	Art Unit	
	Shawn S. An	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 January 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 13-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 13-17 and 19-27 is/are rejected.
- 7) Claim(s) 18 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on 1/02/07 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/483,883 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Amendment

2. As per Applicant's instructions as filed on 1/02/07, claims 1-12 have been canceled, and claims 13-27 have been newly added.

Response to Remarks

3. As per Applicant's remarks/arguments, please refer to the following grounds of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-17, 19-24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al (5,627,583) in view of Kato (4,831,444).

Regarding claims 13 and 27, Nakamura et al discloses an endoscope, comprising:

a first endoscope (Fig. 1(a), 1) and a second endoscope (Fig. 1(b), 2) including:
an elongated insert portion (1, 2);

a solid state image pick up device (11,12; CCD) for picking up an image, and being provided to an end portion of the insert section (Figs. 1-2);

a general purpose video processing circuit (Figs. 2 and 4, 16) including a drive signal generation section (21) for driving the solid state device, and a video signal processing section (13, 14, 16-17) for producing a standard video signal in response to an output signal outputted from the solid state image pickup device;

sync signal generation circuit (Fig. 4, 22; Fig. 5, 42; Fig. 8, 77; Fig. 12, 105) for generating sync/timing signal required for each circuit (col. 5, lines 14-20), and a signal processing adjusting section (Figs. 4 and 5, 23 and 43, respectively; Fig. 8, 70) for adjusting signal processing with respect to the video signal processing section;

a video signal output connector (17) for outputting the standard video signal outputted from the GP video signal circuit to an external display unit; and

the second endoscope including all of its affiliated limitations, which are substantially identical to the first endoscope (except it's second device/circuit) and all of its affiliated limitations as discussed above;

wherein for at least one of when the first image pickup device (11) of first endoscope and the second image pickup device (12) of second endoscope are different in length, and when the first image pickup device (11) of first endoscope and the second image pickup device (12) of second endoscope are different (High density pixel type VS compact pixel type) in number of pixels, the first and the second GP video processing circuit are constituted by a common GP video processing circuit (Figs. 2 and 4, 16).

Nakamura et al does not specifically disclose an adjusting circuit including a timing adjusting section for performing timing adjustment of the drive signal generated by the drive signal generating section such that the output signal to be inputted to the general purpose video processing circuit has a correct timing, and the first and the second adjusting circuit being constituted by a common adjusting circuit.

However, Nakmura further discloses that a sync signal generated by the sync signal generation circuit (77) being applied to the CCD driver (82) which drives system CCDs provided in an extreme end portion of the endoscope on the basis of the sync signal (col. 9, lines 4-11), and since the system clock required for each sync circuit is

Art Unit: 2621

different, a sync signal generating circuit is adapted (implies adjusting) for the endoscope B2 (col. 6, lines 49-56).

Furthermore, by definition, a general synchronized operation mode would normally indicate a mode where system circuits are connected and controlled to operate at a same frequency (inverse time) to be in a synchronized mode.

Moreover, Kato teaches an endoscopic function adjusting circuit (Fig. 8C, 36) comprising a delay amount adjusting circuit (36) for canceling the effect of a signal delay taking place in a signal cable (17) connecting the image pick-up device (20) to the signal processing circuit (30) by adjusting timings of drive signals (22) of the solid-state image pickup device (20) (delay amount adjusted from elements 22 (pulse generator) to 20 (CCD) to 17 (cable) to 36 (delay circuit) and finally to 30 (signal processing circuit) (col. 7, lines 52-56), thereby adverse effect of delay and deterioration of signal during transmission through the signal line are compensated for irrespective of variations of the length of the signal line and with a simple construction (col. 2, lines 5-12).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing an endoscope as taught by Nakamura et al to incorporate Kato's teachings as above so that the adjusting circuit includes a timing adjusting section for performing timing adjustment of the drive signal generated by the drive signal generating section such that the output signal to be inputted to the general purpose video processing circuit has a correct timing and the first and the second adjusting circuit are constituted by a common adjusting circuit since, since adverse effect of delay and deterioration of signal during transmission through the signal line are compensated for irrespective of variations of the length of the signal line and with a simple construction.

Regarding claim 14, Nakamura et al discloses video processing circuit and the adjusting circuit appears to be disposed in an operation section arranged close to a proximal end of the insertion section (Fig. 2). Therefore, it would have been considered obvious to one of skill in the art to realize that video processing circuit and the adjusting circuit being disposed at a proximal end of the insertion section for convenience.

Regarding claims 15-17, Nakamura et al discloses various types of peripheral units and a CPU for controlling a front operation panel being also provided in the camera control unit (includes video processing circuit and adjusting circuit) (col. 4, lines 14-18), and the CPU for control purposes inputs control signals from an unillustrated front operation panel, and controls various peripheral units on the basis of the input control signals (col. 5, lines 1-5). Therefore, it would have been considered obvious design choices for one of skill in the art to recognize that the video processing circuit being mounted on a first common board along with a first microcomputer that perform operation setting of the video signal processing unit, and the adjusting circuit being mounted on a second common board along with a second microcomputer for controlling adjusting circuit.

Regarding claim 19, Kato teaches a delay amount adjusting circuit (Fig. 15, 36) for adjusting a delay amount of the drive signal generated by drive signal generating section (22) and applying the adjusted drive signal (from 36 to 38 to 40 to 34 to 22 to 20) to the image pickup device (20).

Regarding claim 20, Kato teaches the delay amount adjusting circuit (Fig. 15, 36) correcting a time delay for the drive signal outputted by the drive signal generating section (22) to be applied to the image pickup device (20), and a time delay for the output signal outputted from the image pickup device to be inputted to the video processing section (30), to input the output signal to the video processing section at a predetermined timing (it would be a predetermined timing after the time delay has taken effect).

Regarding claim 21, the Examiner takes official notice that a video processing circuit utilizing a DSP is well known in the art (see also Inoue (6,099,465); Fig. 1, 25). Therefore, it would have been considered obvious for one of skill in the art to recognize that the video processing circuit could constitute using a DSP to take advantage of digital signal processing, whereby the digital signal processing enhances the signal.

Regarding claim 22, Kato teaches a wave shaping (matching) circuit for performing wave shaping of the drive signal and applying the wave shaped drive signal

Art Unit: 2621

to the solid-state image pickup device (col. 1, lines 31-40; col. 2, lines 5-12), and the drive signal (Fig. 15, 22) timing adjusted by the (delay) timing section (36).

Therefore, it would have been considered obvious for one of skill in the art to recognize that the wave shaping circuit performs wave shaping of the drive signal timing adjusted by the timing section and applies the wave shaped drive signal to the solid-state image pickup device so that adverse effects of delay and waveform deterioration of a signal during transmission through the signal line are compensated.

Regarding claim 23, the Examiner takes official notice that a light guide for transmitting illuminating light, wherein an end portion of the light guide being detachably connected to an external light source is well known in the art (see also Takahashi et al (6,215,517 B1); Fig. 1, 103 and 201). Therefore, it would have been considered obvious for one of skill in the art to recognize a light guide for transmitting illuminating light, wherein an end portion of the light guide being detachably connected to an external light source for efficient way to illuminate/transmit light in order to take quality images.

Regarding claim 24, Nakamura et al discloses a pixel number adjusting section (Figs. 4 and 5, 23 and 43, respectively) for adjusting signal processing by the video signal processing section compatibly with different numbers of pixels of the solid state image pickup device ((Figs. 1(a)-1(b), 11-12; col. 5, lines 20-30; col. 6, lines 31-56).

6. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al and Kato as applied to claim 13 above, and further in view of Wilk (5,368,015).

Regarding claim 25, Nakamura et al and Kato do not seem to particularly disclose an electrical bending portion for electrically bending of a bending portion provided to the insert section.

However, Wilk teaches an electrical bending portion for electrically bending of a bending portion (Fig. 5, 200, 202) provided to the insert section (col. 8, lines 8-22 and lines 27-39).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing an endoscope as taught by Nakamura et al to incorporate

Art Unit: 2621

Wilk's teaching as above so that the electrical bending portion electrically bends the bending portion provided to the insert section for flexibility, thereby being able to perform endoscopic operations more accurately.

Regarding claim 26, Nakamura et al and Kato do not seem to particularly disclose an external remote control circuit detachable connected to the endoscope.

However, Wilk teaches an automated surgical system comprising an external remote control circuit (Fig. 5, 236) detachably connected to an endoscope for controlling linear movement, distal end bending, and tip operation of endoscopic instruments (col. 8, lines 51-54).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing an endoscope as taught by Nakamura et al to incorporate Wilk's teaching as above so that the external remote control circuit is detachably connected to an endoscope for controlling linear movement, distal end bending, and tip operation of endoscopic instruments in a remote place.

Allowable Subject Matter

7. Claim 18 is objected to as being dependent upon a rejected base claim 13, but would be allowable:

if claim 18 is rewritten in independent form including all of the limitations of the base claim 13 and any intervening claims.

Dependent claim 18 recites a novel feature, wherein prior art of record fails to anticipate or make obvious the novel feature.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in a condition for allowance.

Art Unit: 2621

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Takahashi et al (6,215,517 B1), Electronic endoscope system.

B) Inoue (6,099,465), Electromagnetically coupled electronic endoscope system.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 571-272-7324.

10. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SHAWN AN
PRIMARY EXAMINER